

Wisconsin State Parks, Forests, Trails, and Recreation Areas

Have fun! Explore! Collect a patch!

Look through this book. Find something interesting to explore. Get out there and explore it. Check off things as you go!

\blacksquare I tracked down an insect (page 3).
■ I invited an insect for a sleepover (page 5).
■ I discovered hidden patterns (page 6).
■ I found a lost feather and solved the mystery (pages 9–11).
■ I followed the moon through its phases (page 12).
☐ I'm working on a moon flip book (page 14).
■ I found fungi (page 16).
☐ I played ECHO (page 18).
■ I went on a bat watch (page 19).
□ I spied on fish (page 21).
■ I caught a fish (page 23).
To earn a patch:
Complete 6 to 11 of the explorations listed above.
■ Attend a nature program or take a nature hike.
☐ Pick up litter, save a fish (see page 22), or build a bat house (see page 20).
lacktriangle Fill out the evaluation form with a grown-up (found on colored center pages of booklet
To get your patch (choose one method):
Give your evaluation form to a park staff person and tell him/her what you did.
☐ Visit the Wisconsin Explorers Web site <www.dnr.wi.gov interp="" land="" org="" parks="" we=""> and complete the evaluation form. The patch will arrive by mail in 2–4 weeks.</www.dnr.wi.gov>

For more information, call (608) 266-2181 or email wiparks@wi.gov

explorations to: Wisconsin Explorers Program PR/6, Department of Natural Resources,

Mail the evaluation form, your address, and a letter or drawing telling about your

P.O. Box 7921, Madison, WI 53707. The patch will arrive by mail in 2-4 weeks.

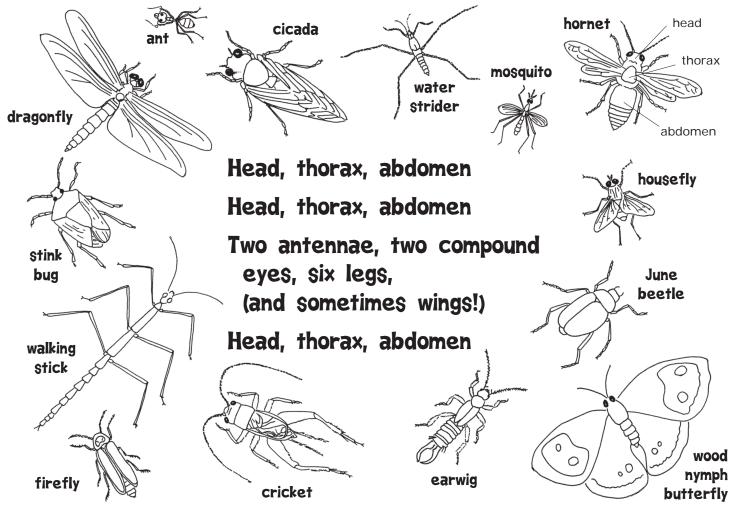
The Wisconsin Explorers program is an interpretive program of the Wisconsin State Park System made possible by the generous support of the Natural Resources Foundation of Wisconsin and the following donors: Bong Naturalist Association, Friends of Devil's Lake State Park, Friends of Hartman Creek State Park, Friends of Interstate Park, Friends of Kettle Moraine, Inc., Friends of Kohler Andrae State Park, Friends of New Glarus Woods State Park, Friends of Rock Island State Park, Friends of Whitefish Dunes State Park, Menasha Corporation Foundation, R.D. & Linda Peters Foundation, and one very generous anonymous donor.

Track Down an Insect

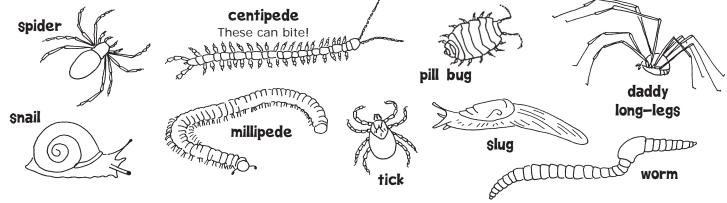
Find a plastic jar or zip-lock bag. Search for a non-stinging insect to put in it.

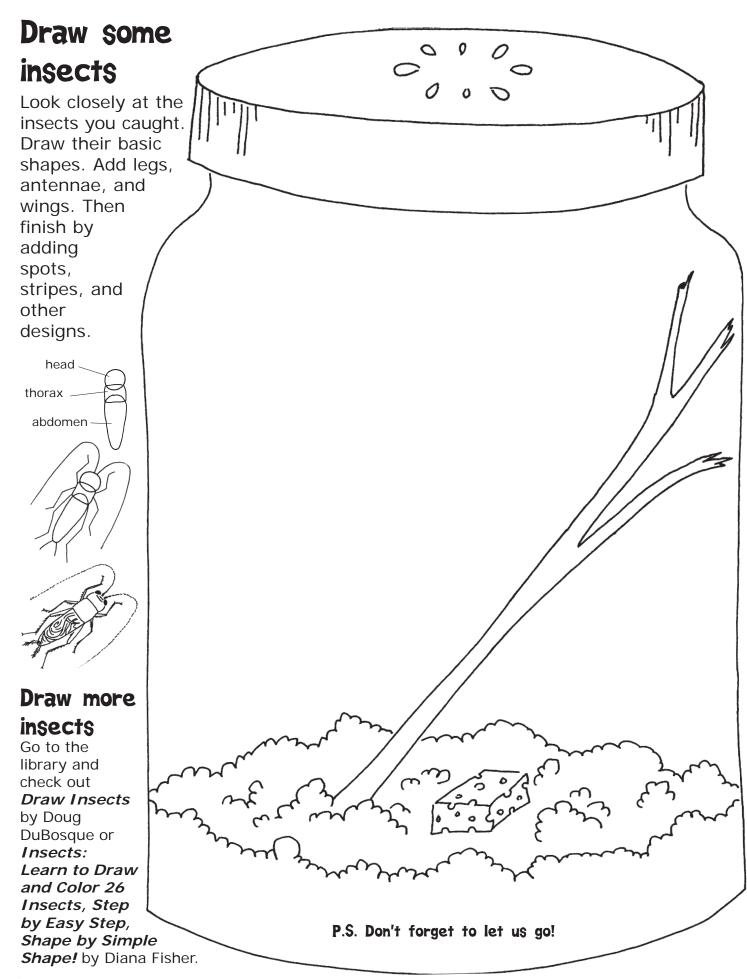
Sing the insect song

The secret to what makes an insect an insect is in this song. Does the critter you found match the song? If it does, you have an insect! Sing the song to the tune of *Head, Shoulders, Knees, Toes*, but be ready to sing the third line really fast.



Don't be fooled by these insect look-a-likes:





Have a sleepover

You can learn about an insect's secret life if you spend time with it. Ask a grown-up for a jar with a lid. Then . . .

- + Punch a few small holes in the lid.
- ♣ Place some soil and a small twig in the jar, then add the insect.
- ♣ Put a small damp sponge or napkin in the jar so the insect has water to drink.
- ♣ If you aren't sure what your insect eats, add a small piece of fruit, a few leaves of the plant you found it on, a dead insect, and a few drops of honey.
- ★ In the morning, release the insect in the same place you found it.

Did you know?

When a cicada splits out of its skin, its wings are all wet and crinkled. It can't fly until its wings are dry.



Build an insect

This game is like $Cootie^{\tau M}$, but you draw the insect instead of building it. Just like when you play $Cootie^{\tau M}$, you have to draw a head before you can add eyes or a mouth. You must have a thorax before you can add legs and wings. Here's what you need to play:

- + A die, a spinner with six numbers, OR six playing cards (Ace through 6)
- + A piece of scrap paper and pencil for each player
- ★ Your family or friends

Number spinner,	on or	the die, card	=	Insect body part	
		1	=	a head or a mouth	
		2	=	an antenna or a wing	



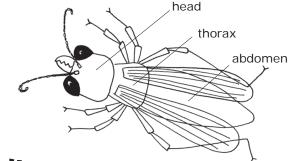
3 = a thorax 4 = an abdomen

5 = an eye

 $6 = a \log$

The youngest player goes first. She tosses the die, spins the spinner, or picks a card. If she gets a 1, 3, or 4, she can start drawing her insect. If she gets a 2, 5, or 6, she can't draw anything. Play continues until a player has built an insect with:

1	head	1 mouth
1	thorax	2 antennae
1	abdomen	6 legs
2	eyes	2 wings



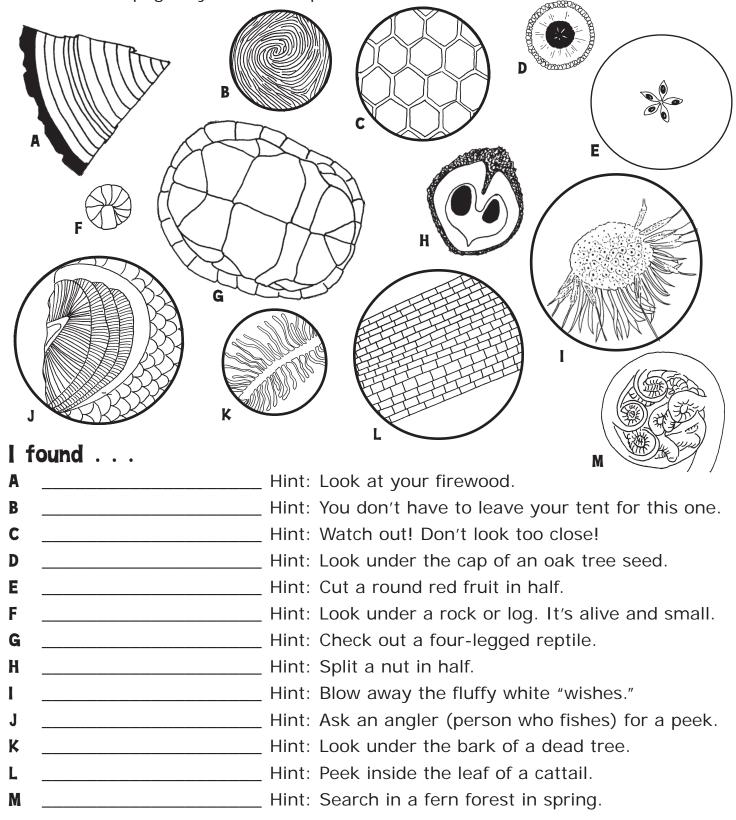
Here's what I did! -

	-
☐ I found an insect and sang the insect song ☐ I found a critter that was not an insect. ☐ I drew a picture of an insect.	4
- urew a nicture	١.
☐ I Invited a	
Sleepover for a	
☐ I found different insects	
Ine most in insecte	

The most interesting secret I learned about insects is . . .

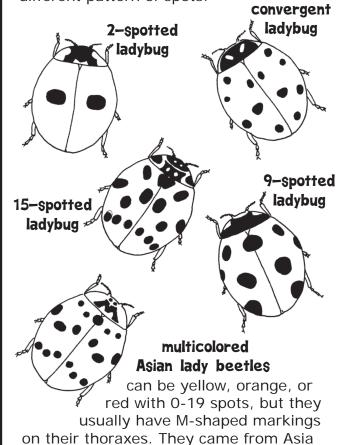
Discover Hidden Patterns

Take a nature walk. How many of these hidden patterns can you find? They start out easy and get hard! Use a magnifier if you have one. See the hints at the bottom of the page if you need help.



Did you know?

Have you ever heard someone say that the number of spots on a ladybug tells the ladybug's age? Here's the real secret. Each species (kind) of ladybug has a different pattern of spots.



Peek at nature

and often invade our homes.

Find a piece of cardboard (the front of a cereal box is great) and poke a small hole (about 1/4") in the middle. Take a nature walk. Use the *Nature Peeker* to help you find patterns you might have missed. When you get back to camp, you can place the *Peeker* over photos in nature magazines. Move the hole around the photo. Can your family identify the things in the photos by only peeking at a small part at a time? Put the *Peeker* over natural objects. Who has the best imagination in your family?

Take a picture

It's fun to take close-up pictures of things in nature. Here are some tricks photographers use to get interesting photos. Good luck!

- **+ Lighting -** Take pictures in the morning and late afternoon instead of the middle of the day. Take pictures with the sun behind you or to your side so your subjects are well-lit.
- **+ Subject -** Try to fill the whole picture with your subject. Try taking pictures lying on your back, looking upside-down between your legs, or sitting in a tree.
- + Close-ups If your camera has a little flower symbol like this , use it to take close-up pictures.
- **† More tips –** Visit **BetterPhoto** for more tips < www.betterphoto.com/ photography-for-kids.asp>

before it unfolds). L. inside of cattail leaf, M. fiddlehead (fern frond flowerhead, J. fish gills, K. bark beetle carving, G. turtle shell, H. black walnut, I. dandelion E. center of apple, F. roly-poly or pill bug, C. honeycomb in a bee hive, D. acorn cap, A. tree growth rings, B. fingerprint, Answers to Hidden Patterns on page 6.

- Here's what I did! -

- \square I went on a nature walk and found patterns. □ I took a close-up nature photograph.
- □ I pieced together a nature quilt.
- \Box I peeked at nature through my Nature Peeker.
- \square My favorite nature pattern is . . .

Piece together a nature quilt

Quilters design quilts with their favorite patterns. You can make a nature quilt on this page by choosing some of the patterns below or creating your own patterns. Choose things that you like, then think of ways to show them in a quilt square. You can put a different pattern in each square or make them all the same.

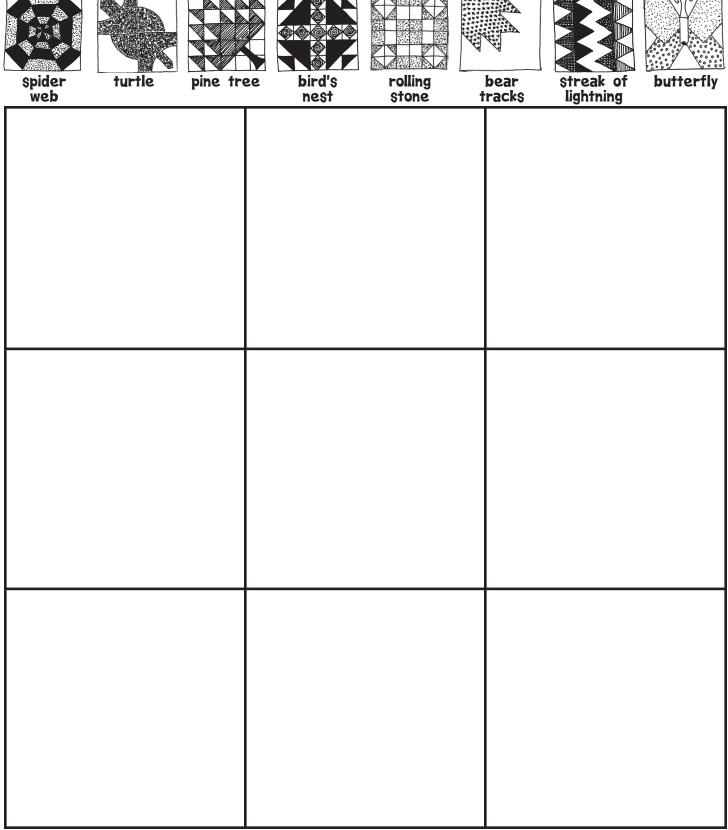
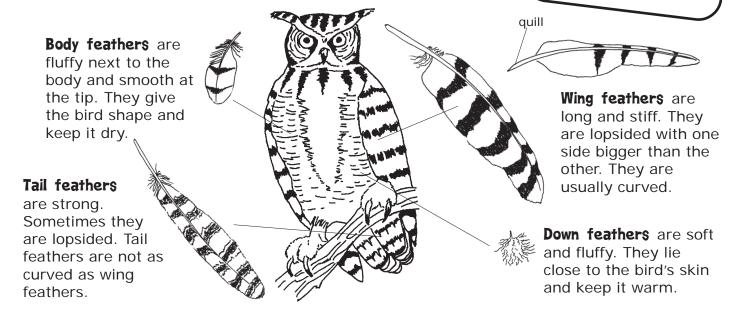


Figure Out Feathers

Without feathers, birds would be in big trouble. Feathers make it possible for birds to fly, stay warm, hide from predators, and find mates. There are a lot of secrets you can learn from feathers if you know what to look for!

Find a feather

If you have trouble finding a feather, ask to see one at the nature center or office. Compare the feather you found to these drawings. What part of the bird do you think your feather came from? Wash your hands with soap and warm water right after you handle wild feathers of any kind. Feathers can carry germs.



Draw a sketch of the feather you found

Identify a feather

What kind of bird did the feather you found come from? Sometimes you can guess by the size or color of the feather, but many feathers are a mystery. Here are some of the feathers you might find in a Wisconsin woods.



Solve a mystery

How did the bird lose its feather?

If you found a pile of feathers, the bird is dead.

Use the clues below to figure out how it might have died.

If the quills have been chewed off, the bird was probably eaten by a mammal.



If the quills are bent, the bird was probably eaten by a large bird. A hawk or owl uses its beak and feet as it plucks out feathers.

If there is skin on the end of the quill, the feather was pulled out after the bird had been dead for awhile.



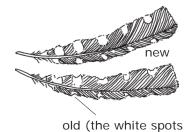
If the bottom of the feather is covered with something that looks like a straw, the feather was just starting to grow. This feather must have been pulled from the bird.

After looking at the feathers, put them back where you found them. Birds, feathers, nests, and eggs are protected by law. Unless you have a special permit, it is illegal to keep them.

If you found one feather, the bird is probably still alive.

Feathers get old and wear out. At least once a year, a bird molts (loses its feathers one by one) and grows a new set of feathers. Use the clues to figure out if your feather is old or new.





are smaller)

The feather is old if its white parts are worn away. White feathers are not as strong as dark feathers.

- Tell the story -

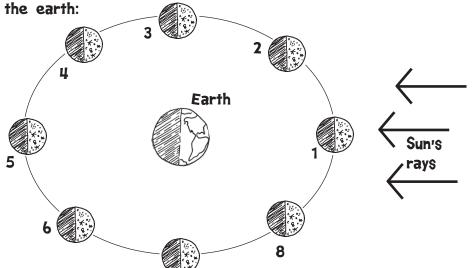
How do you think the bird lost its feather?

Follow the Moon

Each night the moon looks a little different. It's not a mystery. Here's how it works. One half of the moon is always lit by the sun. The moon orbits around the earth. As you look at the moon from the earth, you see different parts of the sunlit half each day. It takes about one month for the moon to make one trip around the earth.

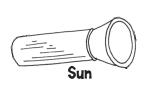
Pretend you are on top of the earth. Look at the moon at each numbered stop. Here's what the moon looks like from the earth:

- 1 new moon
- 2 waxing crescent
- 3 first quarter
- 4 () waxing gibbous
- 5 (full moon
- 6 waning gibbous
- 7 🚺 last quarter
- 8 waning crescent



Go through the phases

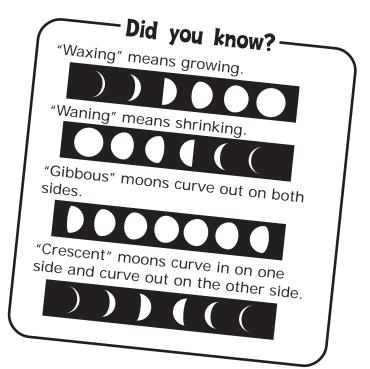
Wait for dark to do an experiment. You will need a large flashlight (sun), an apple (earth), and a golf ball (moon). You can use other round things, but a golf ball has craters!







Set the earth on a picnic table and shine the the sun on it. Move the moon counterclockwise around the earth. Watch how the sunlight lights up half of the moon. Now imagine you are sitting on the earth (apple). How does the moon look to you? Can you always see the moon from every place on the earth? Can you see a crescent moon? First quarter moon? Full moon?



Find out more

Read *Moon* by Gail Gibbons.

Name the moons

Before paper calendars, Native Americans discovered how to keep time with the moon. They name the full moons after things they see happening in nature. If you had the chance to name the moons, what would you name them?

Month	Ojibwa moon name	My name for each moon
January	Great Spirit Moon	
February	Snow Crust Moon	
March	Broken Snowshoe Moon	
April	Sugar Moon	
May	Blossom Moon	
June	Strawberry Moon	
July	Blueberry Moon	
August	Rice Moon	
September	Changing Leaves Moon	
October	Falling Leaves Moon	
November	Freezing Moon	
December	Little Spirit Moon	

-Here's what I did!

- □ I saw a crescent moon!
- \square I named the twelve moons of the year. \square I tried the experiment with the golf ball
 - and ate the apple.
- ☐ I saw a full moon.
- □ I'm working on a moon flip book, but I think it will take a while to see all the phases.
- \square I saw a quarter moon.
- \square I discovered a secret about the moon that I never knew. The secret is . . .

Did you know? -

You can tell if the full moon is coming or if it has already passed. Look at the moon and draw a straight line down the shadow side of the moon. If you can make a lower case "d," the moon is disappearing (the full moon is past). If you can make a lower case "p," the moon is making its premier (the full moon is still to come).

disappearing moons

up & coming moons

Make a moon flip book

Camping is a great time to start watching the moon. Draw a picture of it each day. When all the circles are filled, cut out the rectangles. Staple the pictures together in sequence to make a moon flip book.

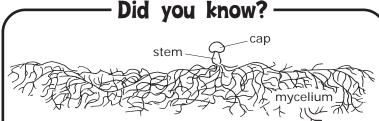
staple here	2	3
4	5	6
7	8	9
10	11	12
13	14	15

Find Foxfire & Fairy Rings

Glowing mushrooms, fairy rings, and other fungi are amazing. One day, you don't see any. The next day, your campsite, lawn, or favorite woods are covered with them. Where have they been hiding?

Hunt for foxfire

On a night with no moon, head into the woods to search for foxfire. Foxfire is a glowing light made by fungi living on dead wood. It is a soft glow, so turn off your flashlight and let your eyes get used to the dark.



A mushroom cap is just a small part of a fungus. The body of the fungus (mycelium) grows hidden under the ground or under the bark of a tree. The mushroom cap is just the part of the fungus that makes spores to grow new fungi.

Stand in a fairy ring

Search for mushrooms growing in a circle. In England, some people believe that elves or pixies make fairy rings when they dance in a circle and wear down the grass beneath their feet. Other people think that if you stand in the center of a fairy ring at midnight during a full moon and make a wish, it will come true. Can you test that theory? What if you dance?

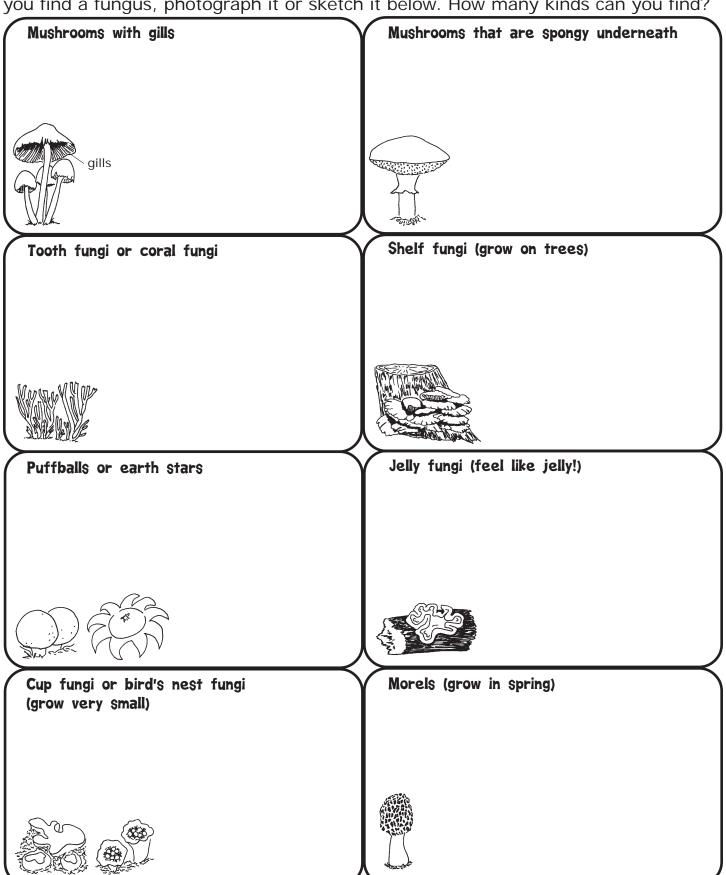
Draw your favorite mushroom

Wisconsin doesn't have a state mushroom—yet. Find your favorite mushroom. Draw a picture of it, describe it, and give it a good name. Tell why you think it should be the state mushroom.

Do not eat any
wild mushrooms! No
matter how tasty they
look, they may be
poisonous enough to kill
you. Wash your hands after
touching mushrooms!

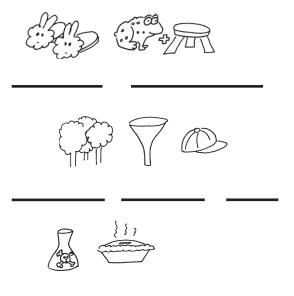
Find a fungus

Take your family or friends for a walk in spring, in fall, or after a rainy day. When you find a fungus, photograph it or sketch it below. How many kinds can you find?



Name that mushroom

Mushrooms have great names like fuzzy feet, black jelly drops, tiger's eye, gray bird's nest, orange peel, forest funnel cap, black trumpet, lemon drops, eyelash cup, turkey tail, poison pie, chocolate tube slime, antler coral, slipper toadstool, witch's hat, chicken-of-the-woods, and bloody tooth. Can you solve these rebus puzzles and figure out the names of these mushrooms? The answers are in the list!

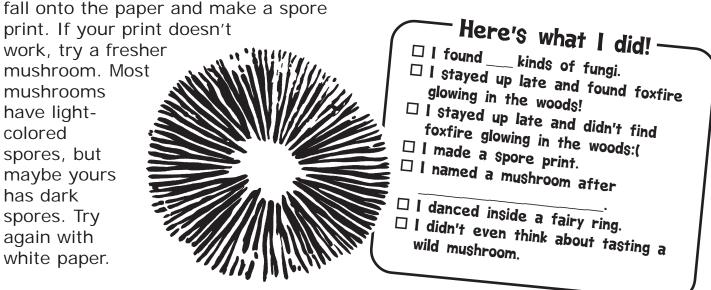


Try it!

Make your own rebuses and try them on your family or friends. You can also play charades or $Pictionary^{TM}$ using the mushroom names listed above.

Make a spore print

You will need a mushroom with gills. You can find one or buy one at a grocery store. Cut off the stem and place the cap gill side down on a piece of dark paper. Cover the mushroom with a container and don't touch it for 24 hours. Spores will



Find out more

Borrow these books from the library: *The Mushroom Hunt* by Penny Dale, *Fascinating Fungi of the North Woods* by Cora Mollen and Larry Weber, or *Plants That Never Bloom* by Ruth Heller.

Snoop on Bats

Bats aren't the easiest animals to track down. They hide all day and only come out after the sun goes down. Use these hints to discover their secret lives.

Play ECHO

Shout across a meadow, lake, or valley. Did you hear your voice come back to you? That is an echo. Bats send out high-pitched sounds and listen for the echoes. Their sounds bounce off of trees, the ground, you, and the insects they are hunting. Bats know from the echoes what is in front of them.

- ★ Choose one person to be the bat. This person will wear a blindfold. (Bats are not blind. The blindfold in this game forces the "bat" to listen to the echoes instead of depending on his/her eyes.)
- ★ When the bat starts slowly moving, it must clap. Everyone else must clap in response.
- If the bat is heading toward something like a tree or tent, the other players clap very fast to signal the bat to stop and change direction.
- ♣ If the bat is heading in a safe direction, the other players can clap softly and slowly.

When you've mastered this part of the game, try hiding a snack at your campsite. See if the bat can find the food by listening. The closer the bat gets to the object, the louder and faster everyone should clap. If the bat gets farther away, the clapping should become softer and slower. This game is like playing "hot and cold" with sounds. Warn the bat if it is headed for danger!

Here's what | did! □ I found a snack while playing ECHO. □ I went on a bat watch. □ I think I heard bat sounds. □ I made an origami bat just for fun (and maybe for good luck). □ I also . . .

Leave bats alone

Don't touch a live or dead bat. If you find an injured bat or a bat that isn't acting normal, contact a park staff person. Remember, a normal bat would be in a safe hiding place during the day. The staff can decide if the bat is sick or injured. If it is, it needs the help of a trained bat rehabilitator.

Go on a bat watch

To see bats in action, hike to an open grassy area, pond, lake, or bright light just as the sun sets. If you are lucky, you will see hungry bats flying around eating breakfast. Wisconsin has seven different kinds of bats. Good luck seeing some! Bats marked with \rightarrow are the ones you are most likely to see.

Here is the key to where you can see bats: F=Forest, FC=Forest Clearing, FE=Forest Edge, TT=Top of the Trees, W=Water, M=Meadow, C=Cropland, BL=Bright Light

- Little brown bat W. FC. M. C
- Big brown bat W, F, M
 - Northern long-eared bat (* and #)
 - FE, FC, TT, sometimes W **Silver-haired bat (* and #)**
 - FC, FE, sometimes TT
 - **Red bat (* and #)**
 - One of the first bats to begin flying in the evening. FE, FC, BL
 - Hoary bat (* and #)
 - Feeds after it is completly dark. M, W, FC
 - ▼Tri-colored bat (eastern pipistrelle) (*) One of the first bats to begin flying in the evening. Flies slowly, but wildly. FE

Did you know?

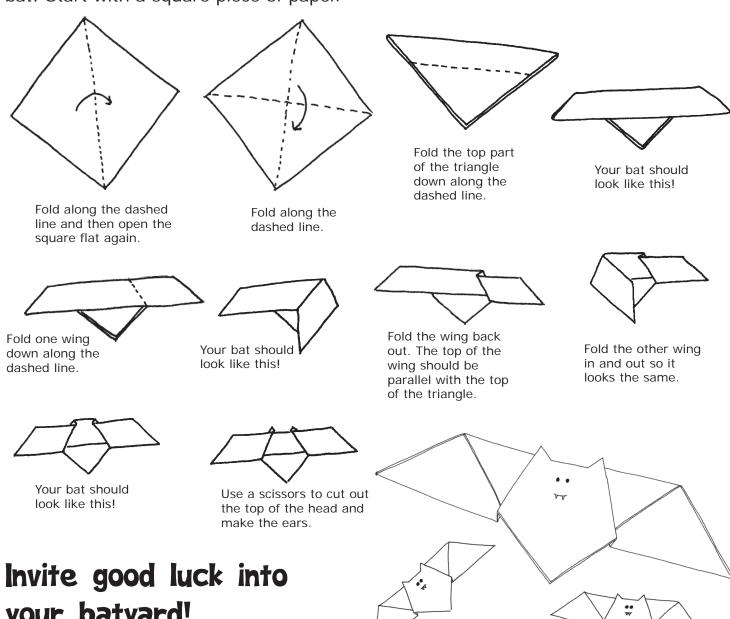
- Bats are in trouble. The bats marked with a * are of Special Concern in Wisconsin. That means scientists think they might become threatened or endangered. Bats marked with a
- # are Species of Greatest Conservation Need in Wisconsin. We need to take care of them! People can help bats by:
- ♣ Protecting the places where
- **★** Taking care of bats that end
- up in places they shouldn't be. ◆ Not using chemicals to kill insects and plants.

Tell your story

What happened on your bat watch?

Fold some good luck

The word "bat" in the Chinese language sounds just like the word for "good fortune," so Chinese people think bats are lucky. Since red is the Chinese color of joy, make your paper bat out of red paper, and you will have a happy and lucky bat! Start with a square piece of paper.



your batyard!

A little brown bat (weighing about eight paper clips) can eat 500 to 1,000 mosquitoe-sized insects (weighing one to two paper clips) in one hour. Fewer mosquitoes means more fun outside! Look for bat house plans at the **Bat Conservation International** Web site <www.batcon.org/ pdfs/SingleChamberBHPlans.pdf>

Find out more

Fly on over to the library and check out these bat books: **Bat Watching** by Diane Bair, What is a Bat? by Bobbie Kalman and Heather Levigne, and Zipping, Zapping, Zooming Bats by Ann Earle.

Spy on Fish

Have you ever been lucky enough to see or catch a fish? Do you know these fish secrets?

See like a fish

Tell an adult what you are going to do and ask them to watch you. Walk out into a lake until the water is about 3 feet deep. Take a deep breath, hold your nose, and go under. While your head is completely under the water, turn over so you can look up at the sky. What do you see? Have you ever seen this fisheye view before? Have you ever looked through a peephole in a door? Now you know why it is so hard to sneak up on fish.

Try these fish stalking hints

- ★ Walk softly and slowly. Loud steps send vibrations through the ground to the water.
- ★ Talk quietly.
- ★ Stay low when you get close to the bank. Remember: tall things really stand out in fisheye view.

Try fish watching from a pier or bridge.

Look in weedy places, under piers, and in flowing water.

Visit **EEK!**

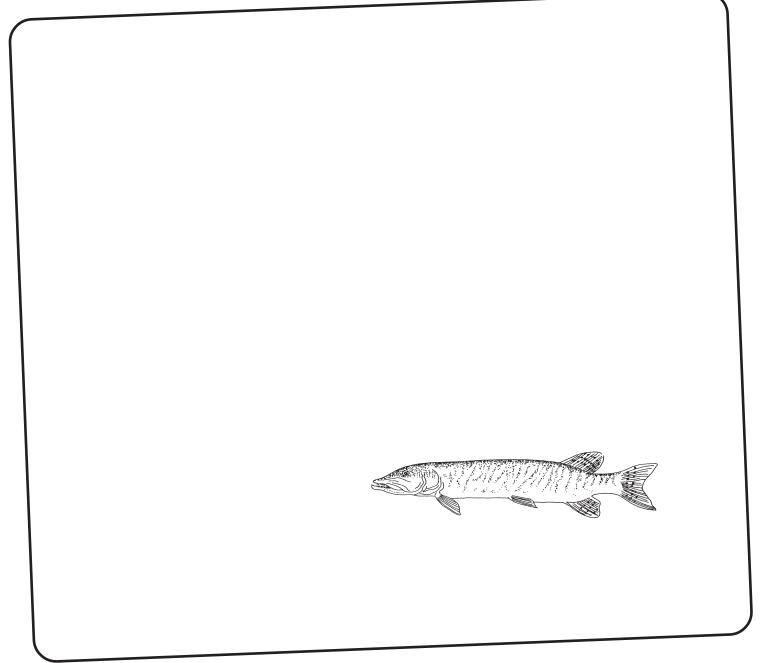
Find out about fish watching hot spots around Wisconsin. Visit <dnr.wi.gov/eek/critter/fish/fishevent.htm>

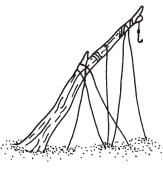
- ♣ Practice looking through the surface of the water to see what is underneath.
- ★ Walk so the sun is at your back. This reduces glare, but watch your shadow! Don't let it fall on the water.

Pumpkinseeds have light orange bellies, fins, and tails. Their sides and backs have orange, yellow, blue, and emerald splotches. They have red eyes, white streaks on their faces, and scarlet spots on the tips of their gill covers. Give this fish some color!

Camouflage a fish

The muskellunge is Wisconsin's state fish. Muskies have patterns and colors that help them hide in underwater weeds. Can you hide this fish so that it can sneak up on its prey? You can draw plants, rocks, and more fish. When you are done, see if your family can find the muskie.





Save a fish!

When a fish, bird, or other animal gets caught in fishing line, it has little chance of wriggling free or chewing through the line. Trapped animals usually die slow deaths. Animals can also get tangled up in plastic bags, strings, six-pack rings, nets, and rope. If you see any of these, pick them up and throw them away. And remember to always put your trash in a trash can.

Catch a fish - 3 ways

Fish are a great source of protein, and you can catch them year round. Almost half of the world's population relies on fish for their main source of protein. Can you catch one?

with a soda can

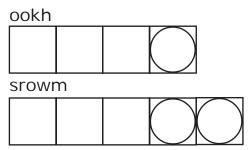
You'll need a soda can, fishing line, bobber, sinker, hook, and bait. You can find directions on how to put together your soda can caster at participating park offices or on the Web at <www.dnr.state.wi.us/fish/kidsparents/ anglereducation/teaching.html>

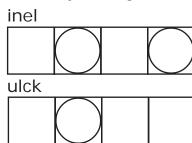
with a pretzel

You'll need little stick pretzels, peanut butter, and goldfish-shaped snack crackers. Put the fish in a bowl. Put some bait (peanut butter) on the tip of your fishing rod (pretzel stick) and go fishing. You don't need to clean or cook these fish - just eat 'em right off the pole!

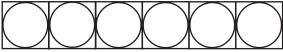
with a pencil

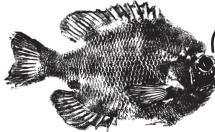
Solve this fishy word jumble. The jumbled words are some of the things you need to go fishing. After you unscramble the words, rearrange the circled letters to find out what kind of fish you caught.





You just caught Wisconsin's state fish! It's a . . .





In Japan, people sometimes rub ink on the fish that they catch. They use the fish to make prints on paper or fabric. Fish printing is called gyotaku.

Here's	what		did!
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- □ I touched a fish! □ I watched a fish. I don't think it saw me. \square I cleaned up some litter that was in and around the water. \square I went fishing, caught a fish, cooked it, and ate it. \square I went fishing and caught goldfish crackers! \square I dove under the water and saw the world through fish eyes.
- \square I ate fish cooked on a grill or fire. \square I saw a camouflaged fish that was hiding in underwater weeds.



Get moving! Get energized! Get a little dirty!

Just . . . get out there and explore!

The grown-ups in your life need you to help them stay active as they get older. Spending time exploring nature with you will help everyone's health and fitness. Look for ways to get out! How many of these activities can you do together this year?

Become a Wisconsin Explorer.
Go to a nature program.
Hike or bike a state trail.
Recreate at a state recreation area.
Go camping.
Take a bird walk.
Snowshoe or ski through a forest.
Find a geocache.
Ride a horse.
Canoe or kayak down a river.

Find out what's happening outdoors by visiting <www.dnr.wi.gov/eek/nature/season/calendar.htm> Find out about activities in the state parks by visiting <www.dnr.wi.gov/eek/nature/camp/index.htm>

Go fishing.

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